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THE EFFECT OF SECURITY AS AN INDEPENDENT VARIABLE ON SELECTED VARIABLES RELATED TO PERCEPTION, COGNITION, AND ACADEMIC ACHIEVEMENT.

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THE EFFECT OF SECURITY ON PERSONAL ADJUSTMENT, PERCEPTUAL AND COGNITIVE STYLE, AND PERSONAL EFFECTIVENESS WAS EVALUATED. THE SAMPLE WAS 249 STUDENTS ENROLLED IN A TEACHER EDUCATION, CHILD STUDY PROGRAM. PERFORMANCE ON MASLOW'S SECURITY INDEX INVENTORY DETERMINED AN INDIVIDUAL'S PLACEMENT IN ONE OF THREE GROUPS. ROKEACH'S DOGMATISM SCALE (FORM E) AND THURSTON'S CLOSURE FLEXIBILITY SCALE WERE ADMINISTERED TO THE THREE GROUPS, AND AN ANALYSIS OF VARIANCE WAS USED TO STUDY DIFFERENCES BETWEEN GROUPS. THERE WERE NO SIGNIFICANT DIFFERENCES BETWEEN SEXES ON ANY OF THE THREE VARIABLES. SECURE GROUPS WERE LESS DOGMATIC THAN INSECURE GROUPS AND HAD A HIGHER MEAN GRADE POINT AVERAGE. AN ANALYSIS OF THE RESULTS AND THEIR IMPLICATIONS FOR EDUCATORS IS DISCUSSED. (JM)

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THE EFFECT OF SECURITY AS AN INDEPENDENT VARIABLE ON SELECTED VARIABLES RELATED TO PERCEPTION, COGNITION, AND ACADEMIC ACHIEVEMENT.

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SUMMARY

From reviewing various theories of psychology related to an individual's adjustment, his perceptual and cognitive style, and his effectivness as a person, the question arose as to the effect security may have on the other three variables. To explore this problem 249 college students enrolled in a teacher education child study program were divided into three groups according to their performance on Maslow's S-I inventory. They were then administered Rokeach's Dogmatism Scale (Form E) and Thurston's Closure Flexibility Scale. A complex analysis of variance (2x3) was employed to explore differences between the three groups and between sexes as to their performance on the cognitive and perceptual tasks and their grade point averages. No differences between sex were found on any of the three variables. Secure groups were less dogmatic than insecure groups. This was more true of females than males. No significant differences were discovered between groups on the perceptual task. Secure groups had a higher mean grade point average than insecure groups. An analysis of the results and their implications for educators is discussed.

INTRODUCTION

How adequate an individual feels may be a measure of his effectiveness as a person. Arthur Combs (1959) feels that "adequacy" is a function of the extent to which an individual perceives himself as able in a given situation. Such a concept may also bear a close relationship with how secure the individual feels in the situation. If such were the case, then a valid measure of perceived personal security might also be evidence of adequacy. Whether a person feels more secure because he is able, or is able because he feels more secure is irrelevant. The main concern is to be found in the general assumption that the more secure an individual feels, the more adequate he is likely to be as a person.

Security has long been considered by many psychologist to be a basic need of all higher organisms. Thomas in 1923 listed it as one of man's four "wishes". Current evidence of its recognized significance can be found in Robert Gardrey's (1966), THE TERRITORIAL IMPERATIVE.

Security for Abraham Maslow (1954) represents two basic needs that must be satisfied prior to the acquisition of "self-esteem" and "self-actualization". This would seem to mean that in order for an individual to effectively satisfy his needs and those of his society, he must, to some extent, feel secure. That is, he must perceive the situation as one in which he has a chance to win, as a challenge rather than a threat. I think we can safely say that an individual who feels threatened feels insecure, and furthermore, that such specific feelings of threat may become generalized to the extent that he now defines himself, for the most part, as inadequate, a person plagued with feeling of insecurity. Such a general feeling of inadequacy would then inhibit rather than enhance his over-all effectiveness as a person.

There are a number of reasons for taking such a position. Combs (1959) has suggested that a threatened person experiences, what he refers to as, "tunnel vision". Because he perceives a given situation as threatening, his intake of information is limited. He defensively narrows his focus to his relationship with the threatening object. Possible solutions or avenues of escape are not likely to be perceived under such conditions. Consequently, there is little chance of his successfully coping with the situation. It might be concluded that an insecure individual is likely to be less open to his experience and thus less able to perform effectively.

Milton Rokeach (1960) has indicated that threatening conditions tend to reduce the degree of flexibility in an individual's cognitive style. General insecurity is given as a function of rigidity or dogmatic thinking. The assumption is that it's the dogmatic style of thinking, resulting from a general feeling of insecurity, which actively prevents the individual from effectively coping with the situation.

Herman Witkin (1962) has defined the term "field-dependence" as a personality variable. Field-dependent subjects tend to depend more upon their environment for cues to spatial orientation than upon themselves. In a sense, they are more other-dependent or other-oriented than self-oriented. The less field-dependent subjects generally display more flexibility in their cognitive style, fewer feelings of insecurity, and for the most part, are more confident. Consequently, when asked to identify an embedded-figure as part of a perceptual task, their analytical style tends to prevent them from being overcome by the "field". The field-dependent subject, on the other hand, because he is threatened,

resorts to "tunnel vision", a technique demanding immediate closure. Due to the excessive speed of closure, the figure chosen is seldom correct, but because of the subject's inability to think flexibly, he's unable to perceive any other possibilities.

"Adequacy", "self-actualization", "cognitive flexibility", and "field-independence" all appear to bear, at least to some degree, a positive relationship with the concept of "security". The question might be raised as to whether such a notion can be empirically demonstrated, or more specifically, are insecure people as a group more dogmatic, more field-dependent, and less effective academically? The purpose of this research was twofold. The first was to examine the theoretical question above. The second, of more importance to the cooperating institution, was to gain further insight into the nature of the student currently enrolled in the teacher education program.

SUBJECTS

The subjects for the study included 95 male and 154 female teacher education students enrolled in a child study program at Eastern Kentucky University. All of the students at the time were either college juniors or seniors. The mean age of the group was 21.61 years. Although the age range was from 19 to 56 years, ages from 19 through 25 represented more than 96% of the entire sample.

PROCEDURE

Nine separate child study classes cooperated in supplying the data for the research. Each was given three group administered test during the Spring Semester of 1966. The three instruments used were:

1) A. H. Maslow's SECURITY INDEX INVENTORY.

2) M. Rokeach's DOGMATISM SCALE (Form E).

3) L. L. Thurstone's CLOSURE FLEXIBILITY.

The students' grade point averages for their junior year were obtained from central records.

THE INSTRUMENTS

Maslow's Security-Index Inventory (S-I Inventory). The S-I Inventory was employed as a measure of general security. It consisted of 75 questions concerning the subject's sense of adequacy with regard to himself and his relationship with others. Maslow reported a range of scores from 0 to 69 with a mean of 18 and a Sd of 12. Considering the personality traits of different groups and the distribution of scores, he divided the entire range into seven classifications:

1. Very secure (0-5)
2. Secure (6-8)
3. Tendency to be secure (9-11)
4. Average (12-24)
5. Tendency to be insecure (25-30)
6. Insecure (31-38)
7. Very insecure (39-69)

The validity of the measure depends to a large extent upon the subject's willingness to disclose himself. Consequently, the test was not administered until it was felt that an acceptable degree of confidence had been established between the professor and his students. Of those subjects randomly selected from the sample, none felt the interpretation of their score to be invalid.

Rokeach's Dogmatism Scale (Form E). The purpose of the Dogmatism Scale was to measure individual differences in openess or closedness of belief systems. Rokeach feels his measure should also serve as a test of general authoritarianism and general intolerance. The test (Form E) consist of 40 statements designed to tap these characteristics. Five of the original statements were omitted (Nos. 11, 12, 13, 14, and 15 of Form D) from use in this study because of their similarity to the type used in Maslow's S-I Inventory. As this lowered the number of items to 35, five suitable questions were chosen from Form D to substitute (nos. 4, 7, 29, 56, and 57 of Form D) in order that the sample means be comparable with the norms.

The subjects were asked to indicate the extent to which they agreed or disagreed with each statement on a scale ranging from one to seven. The statements were all of a dogmatic nature so that strong agreement (7) would be interpreted as a dogmatic response and strong disagreement (1) as a liberal response. The theoretical mean was, therefore, 160.

Thurston's Closure Flexibility Scale (concealed figures). This instrument was designed to measure a subject's ability to hold a configuration in mind despite distraction. The ability has been defined further as the capacity to see a given configuration which is hidden or embedded in a larger, more complex drawing or diagram. It is felt that such a perceptual task because of its similarity to Witkin's Embedded-Figures Test, would be suitable as a measure of "field-dependence".

STATISTICAL ANALYSIS

The means and standard deviations for the total sample (N-249) were computed on all four measures. The subjects were then divided into three groups on the basis of their performance on Maslow's Security-Index. Those scoring 25 and above made up the "insecure" group. Subjects scoring below 12 defined the "secure" group, and the remaining subjects were labled the " average" group. The three groups were further divided by sex. Three complex analysis of variance (2X3) were computed for differences between groups, sexes, and interaction based on performances on the Dogmatism Scale, Closure Flexibility Scale, and Grade Point Average (McNemar, 1963).

RESULTS

The means and standard deviations for the total samples' grade point averages and their results on the three tasks are listed in TABLE I.

TABLE I

MEANS AND STANDARD DEVIATIONS
FOR THE TOTAL SAMPLE
(N = 249)

Measurement	Mean	SD
S-I Inventory	21.21	12.83
Dogmatism: Scale E	153.26	24.11
Closure Flexibility	55.67	20.47
Grade Point Average	2.75	.49

For comparison with Table I, the norm means and standard deviations are listed in Table II.

TABLE II

NORM MEANS AND STANDARD DEVIATIONS

Measurement	N	Ss	Mean	SD
S-I Inventory (test manual)	2020	male and female	19.5	12.7
Dogmatism: Scale E	378	male and female college students	151.86[1]	26.18[2]
Closure Flexibility (test manual)	1105	male professional workers	61.46	30.92
Grade Point Average			N/A	N/A

The results on all three tasks appear to conform favorably with the norms.

[1] Average of the means reported on 9 different groups of comparable size.

[2] Average of the Standard Deviations of 9 different groups of comparable size.

The results of the analysis of variance on the three variables are given in Table III, IV, and V.

TABLE III

DOGMATISM (SCALE E) ANALYSIS OF VARIANCE
(N = 249)

Source	Sum of Squares	df	Variance Est.	F
Between Cells	9,997.00	5	-	-
Groups(rows)	4,004.00	2	2002.00	3.37*
Sex (columns)	707.00	1	707.00	N.S.
Interaction	5,286.00	2	2643.00	4.46*
Within Cells	144,480.00	243	594.00	
Total	154,477.00	248		

* P $\leq$ .05=2.99
** P $\leq$ .01=4.60
*** P $\leq$ .001=6.91

TABLE IV

CLOSURE FLEXIBILITY ANALYSIS OF VARIANCE
(N = 249)

Source	Sum of Squares	df	Variance Est.	F
Between Cells	2,222.28	5	-	-
Groups (rows)	1,292.84	2	646.42	N.S.
Sex (columns)	757.09	1	757.09	N.S.
Interactions	172.35	2	86.18	N.S.
Within Cells	102,026.42	243	419.86	
Total	104,248.70	248		

* P $\leq$ .05 = 2.99
** P $\leq$ .01 = 4.60
*** P $\leq$ .001 = 6.91

TABLE V

GRADE POINT AVERAGE ANALYSIS OF VARIANCE
(N = 249)

Source	Sum of Squares	df	Variance Est.	F
Between Cells	33,277.00	5	-	-
Groups (rows)	29,694.00	2	14,847.00	6.37 **
Sex (columns)	114.00	1	114.00	N.S.
Interaction	3,469.00	2	1,734.50	N.S.
Within Cells	566,504.00	243	2,331.39	
Total	599,781.00	248		

* P ≤ .05 = 2.99
** P ≤ .01 = 4.60
*** P ≤ .001 = 6.91

The three groups previously selected on the basis of their S-I Inventory scores differed significantly from each other in their performance on the Dogmatism Scale (.05) and in their mean Grade Point Average (.01). They did not differ, however, with regard to their performance on the Closure Flexibility Scale. There appears to be no significant sex difference on either of the three tasks. The interaction, however, on the Dogmatism Scale was significant beyond the .05 level.

The means for each group by sex on the Dogmatism scale are illustrated in Figure I.

FIGURE I

DOGMATISM PERFORMANCE MEANS OF GROUPS BY SEX

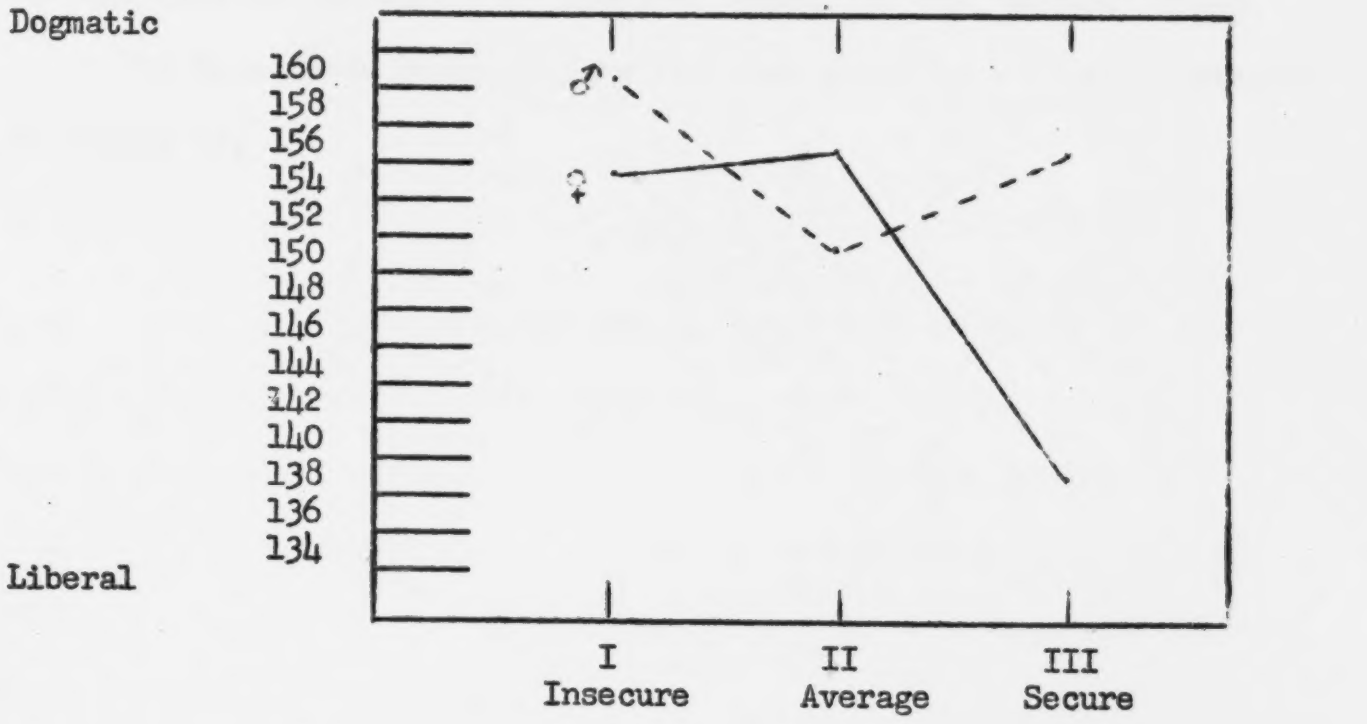

Figure I indicates a trend toward greater "liberalism" for the more "secure" groups. A very significant difference between the sexes seems apparent when each group is considered independently (expecially in the "secure" group), however, the obvious interaction cancels out these differences in performance due to sex when sex is the only basis for grouping.

The interaction is very interesting. "Insecure" males tend to be fairly "dogmatic". As they move toward a state of "security" the trend is to become initially more "liberal". However, further movement toward "security" for the males reverses this trend. This pattern is almost completely reversed for females. The most significant difference between male groups is between the "average" group and the "insecure" group, and for the females, between the "average" group and the "secure" group.

The Mean Grade Point Average for each group by sex is illustrated in Figure II.

FIGURE II

GRADE POINT AVERAGE MEANS OF GROUPS BY SEX

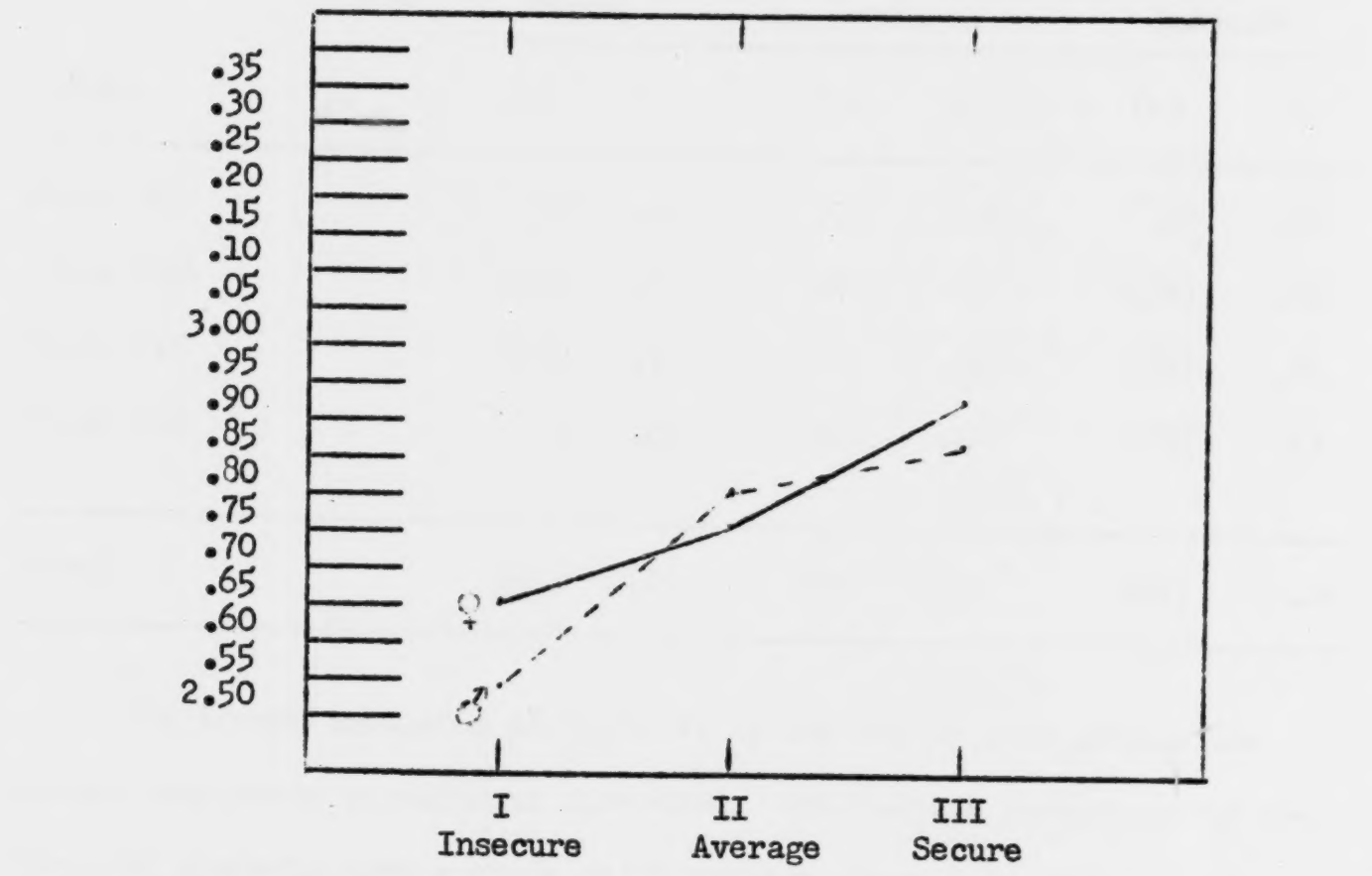

Figure II illustrates the obvious group differences. The apparent trend is for the more "secure" group of students to have as a group a higher grade point average than the "insecure" group. Further investigation into these differences revealed the interesting percentage of students that can be found in each group above and below a select grade point average (See Table VI).

TABLE VI

DISTRIBUTION AND PERCENTAGE OF STUDENTS

ABOVE AND BELOW A SELECTED G.P.A. BY GROUPS

	Secure		Average		Insecure	
G.P.A.	(n)	%	(n)	%	(n)	%
Above 3.5	(5)	.12	(8)	.15	(2)	.03
Above 3.0	(24)	.58	(22)	.40	(18)	.30
Below 2.5	(11)	.27	(24)	.44	(33)	.54
Below 2.0	(1)	.02	(1)	.02	(8)	.13
Total	(41)	1.00	(55)	1.00	(61)	1.00

The trends indicated in Table VI by the two extreme groups are almost completely opposite in direction. The largest percentage of the "secure" students have a grade point average above 3.0, whereas, the largest percentage of "insecure" students have a grade point average below 2.5.

Table VII gives the percentage of students in each group above selected grade point averages.

TABLE VII

DISTRIBUTION AND PERCENTAGE OF STUDENTS

IN EACH GROUP BY G.P.A.

	Secure		Average		Insecure		Total	
G.P.A.	(n)	%	(n)	%	(n)	%	(n)	%
Above 3.5	(5)	.33	(8)	.53	(2)	.13	(15)	1.00
Above 3.0	(24)	.38	(22)	.34	(18)	.28	((64)	1.00
Below 2.5	(11)	.16	(24)	.35	(33)	.49	(68)	1.00
Below 2.0	(1)	.10	(1)	.10	(8)	.80	(10)	1.00

As in Table VI, Table VII indicates almost a complete reversal of trend between the two extreme levels of grade point average. The largest percentage of students having a grade point average above 3.0 are in the "secure" and "average" group, whereas the largest percentage of students having a grade point average below 2.5 are in the "insecure" group.

DISCUSSION

In describing the distribution of scores on the three measures, it is interesting that the performances of this sample of education students, at least with regard to the three variables mentioned, is fairly representative of what might be expected from the general population. None of the differences between the sample means and the standardized means approached statistical significance. Generally speaking, this would indicate that with a child study program enrollment of 500 students, at least 80 (and probably more) students will have serious feelings of insecurity or doubts concerning themselves and their relations with others, will be very dogmatic in their thinking, and may be regarded as "field-dependent". This is not to say that the three groups are necessarily one in the same. However, a good deal of over-lap between groups may exist, as seems to be the case in this study between the "insecure" group and the "dogmatic" group. Utilizing Maslow's classification system, of the 249 subjects sampled, 88 ranged from a "tendency to be insecure", "insecure", to "very insecure". This figure represents more than 35% of the sample. Such an impressive figure would certainly justify an investigation into not only what is being done educationally for our students, but also what is not being done.

The analysis of variance is a statistical method for determining if one variable is having a significant effect upon another. It was expected that the more "insecure" groups would tend to be more "dogmatic" than the "secure" groups. Such results are in support of the theory that threatened subjects are defensively less flexible or more rigid in their thinking. The unexpected was the very significant interaction between sex and degree of security on the Dogmatism Scale. Apparently, the more liberal male subjects are neither "insecure" or "secure". Moving toward either extreme reduced male cognitive flexibility. The female subjects, however, who reported themselves as being secure demonstrated greater cognitive flexibility. It seems that for boys security in relation to cognitive style means something quite different than it does for girls. To become more secure than average for a boy in most cases is to become more dogmatic, whereas, for a girl it's to become more liberal. If being open to one's experiences enhances the educational process, then females may become more effective academically if made to feel secure, and males may actually become less effective. FIGURE II illustrating the G.P.A. means of groups by sex lends support to this notion. The mean G.P.A. for boys is not appreciably raised between the "average" group and the "secure" group. Girls, however, on reporting themselves as being more secure show a significant increase in their mean G.P.A.

The results of the analysis of variance for Closure Flexibility was a complete surprise. The expectations were for a significant difference between the three groups and between sexes. It may be that this particular perceptual task is not an adequate measure of Witkin's "field-dependence".

If this were true, the task may have required more skill than mode. It was the perceptual style or mode which was presummed to be a function of a person's general feeling of security, not perceptual skill. An individual's general approach to a problem or style is an enduring part of his basic personality. Such a variable is stable and pervasive. A skill, on the other hand, is developed through practice relatively independent of his personality and often dissipated through disinterest.

The G.P.A. analysis of variance proved to be quite interesting. The fact that the more secure groups were better students academically might have been expected. The question as to which is cause and which is effect is still unanswered. It may very well be that either one might cause the other depending upon the particular situation. Once the relationship has been established, however, its perpetuation could conceivably come from both. For example, because he makes poor grades he feels insecure and feeling insecure, he performs less effectively as a student. How to break such a vicious cycle is a problem to be explored.

In conclusion, it could be said from the results of this study that:

1) The students in the teacher education program are represented by an impressive number of boys and girls who are quite insecure as well as many who are very secure.

2) Groups of students who have greater feelings of security toward themselves and others are as a group significantly more open-minded or liberal in their thinking than groups demonstrating less security.

3) Apparently, "closure-flexibility" as a dependent variable is incapable of differentiating between secure and insecure groups of college students. Thus, it might be inferred that any behavioral handicap endured as a result of feelings of insecurity has little effect upon the perceptual performance of the group on a task requiring flexibility of closure.

4) Groups demonstrating a high degree of security not only tend to think more openly but as a group are more effective academically. This is more true for girls than boys. It appears at least up to a certain point that how secure an individual feels may be a direct indication of his effectiveness as a person and thus his academic ability.

These conclusions stress a need for additional research in this area. Of special interest would be a study designed to explore possible factors in the university setting which may be contributing to insecurity. Such a study might further investigate the percentage of students who for the first time show signs of insecurity following their freshman year. Information concerning the relationship of these findings to academic achievement may prove extremely helpful to administrators and teachers in educational planning. The research most needed, however, may be of the type which would explore educational methods and techniques for facilitating healthy psychological growth. The effect upon students by a control group of teachers might be compared, for instance, with the effect achieved by an experimental group who purposely strive to incorporate in their involvement with their students what Carl Rogers (1961) has referred to as the "helping relationship".

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